

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings of claims in the application:

**Listing of Claims:**

1.-36. (cancelled)

37. (currently amended) A method of inhibiting the pathological proliferation of ovarian cancer cells in a patient ~~that has a population of ovarian cancer cells that has been determined to comprise cancer cells in which 3q26.3 is amplified~~, the method comprising:  
detecting the presence of an amplification of PIK3CA in ovarian cancer cells from the patient; and  
administering a therapeutically effective dose of an inhibitor of PI3 kinase to the patient, wherein the inhibitor inhibits PI3 kinase enzymatic activity.

38. (previously presented) The method of claim 37, wherein the inhibitor of PI3 kinase is a non-peptidic inhibitor of PI3 kinase phosphoinositide phosphorylation activity.

39. (previously presented) The method of claim 38, wherein the non-peptidic inhibitor is LY294002.

40. (cancelled)